

IN THE CLAIMS

1. (Currently Amended) A color printing apparatus for printing by mixing a plurality of primary colors, comprising:

a printer ~~driver~~ data receiver for receiving a print instruction of print data issued from an application program, and for rasterizing said print data to ~~produce separately~~ receive con-tone/multi-bits bitmap data and bi-tone/single-bit bitmap data, respectively both made up of said print data, from a high-ordered apparatus;

a page memory for independently storing thereinto both said con-tone/multi-bits bitmap data and said bi-tone/single-bit bitmap data;

a control unit for executing a control operation in such a manner that said con-tone/multi-bits bitmap data is converted into con-tone/multi-bits print data, said bi-tone/single-bit bitmap data is converted into bi-tone/single-bit print data, and at least one of said con-tone/multi-bits print data and said bi-tone/single-bit print data is stored into said page memory in a bitmap format; and

an output control unit for reading at least any one of said con-tone/multi-bits print data and said bi-

tone/single-bit print data from said page memory, and for logically synthesizing said print data with each other to output the synthesized print data to a color printing unit.

2. (Currently Amended) A color printing apparatus as claimed in claim 1 wherein,

said printer ~~driver includes~~ data receiver receives a multi-bits rasterize flag for indicating that said con-tone/multi-bits bitmap data is rasterized, and also a single-bit rasterize flag for indicating that said bi-tone/single-bit bitmap data is rasterized.

3. (Original) A color printing apparatus as claimed in claim 1 wherein,

said output control unit includes:

a color converting unit for separating said con-tone/multi-bits bitmap data into a plurality of primary colors; and

an OR gate circuit for OR-gating bit data of said bi-tone/single-bit bitmap data and said bi-tone/single-bit

bitmap data every bit position separated from said con-tone/multi-bits bitmap data by said color converting unit.

4. (Original) A color printing apparatus as claimed in claim 3 wherein,

said output control unit includes,

an inverting circuit for inverting said bi-tone/single-bit bitmap data every bit; and

an AND gate circuit for AND-gating said inverted bitmap data and said con-tone/multi-bits bitmap data every bit position.

5. (Original) A color printing apparatus as claimed in claim 3 wherein,

when said con-tone/multi-bits print data is stored into said page memory, said control unit sets the bit position of the bi-tone/single-bit print data within said con-tone/multi-bits print data to non-print data in response to said single-bit rasterize flag.

6. (Original) A color printing apparatus as claimed in claim 1 wherein,

said control unit stores both said bi-tone/single-bit print data and said con-tone/multi-bits print data into plural sub-divided areas of said page memory in the unit of a block based upon address information designated to said print data; and sets said area which is not designated by said address information to a non-print area.

7. (Original) A color printing apparatus as claimed in claim 1 wherein,

said output control unit judges as to whether or not both said con-tone/multi-bits print data and said bi-tone/single-bit print data stored in said page memory are required to be printed out in response to both said single-bit rasterize flag and said multi-bits rasterize flag; and said output control unit outputs only said print data to the color printing unit.

8. (Original) A color printing apparatus as claimed in claim 1 wherein,

said control unit designates resolution of said bi-tone/single-bit bitmap data as first resolution equal to the output resolution of the color printing unit, and designates resolution of said con-tone/multi-bits bitmap data as second resolution equal to $1/n$ of said first resolution, and also stores both said bi-tone/single-bit bitmap data and said con-tone/multi-bits bitmap data into said page memory; and

said output control unit includes an enlarging circuit for enlarging said con-tone/multi-bits bitmap data having said second resolution to said first resolution to logically synthesize said enlarged con-tone/multi-bits bitmap data and said bi-tone/single-bit bitmap data and output synthesized bitmap data to the color printing unit.

9. (Currently Amended) A printing system comprised of an upper-grade apparatus for rasterizing print data and a color printing apparatus for printing said rasterized print data by mixing a plurality of primary colors with each other, wherein,

said upper-grade apparatus includes first means for separately rasterizing said print data as bi-tone/single-bit print data and con-tone/multi-bits print data and second means

for supplying at least one of said rasterized bi-tone/single-bit print data and said rasterized con-tone/multi-bits print data to said color printing apparatus, and output means for separately outputting said bi-tone/single-bit print data and con-tone/multi-bits print data; and

said color printing apparatus includes a page memory for separately storing the entered bi-tone/single-bit print data and the entered con-tone/multi-bits print data in a bitmap data format, and third means for reading said bitmap data from said page memory in the unit of the primary color to print out the read bitmap data.

10. (Original) A printing system as claimed in claim 9 wherein,

said first means includes a multi-bits rasterize flag for indicating that said con-tone/multi-bits print data is rasterized, and also a single-bit rasterize flag for indicating that said bi-tone/single-bit print data is rasterized.

11. (Original) A printing system as claimed in claim 9 wherein,

said color printing apparatus judges as to whether or not both said con-tone/multi-bits print data and said bi-tone/single-bit print data, which are stored into said page memory in a bitmap format, are required to be printed out to thereby print out at least one of said con-tone/multi-bits print data and said bi-tone/single-bit print data.

12. (Original) A printing system as claimed in claim 11 wherein,

said color printing apparatus judges as to whether or not both said con-tone/multi-bits print data and said bi-tone/single-bit data, which are stored into said page memory in a bitmap format, are required to be printed out based upon said single-bits rasterize flag and said multi-bits rasterize flag.

13. (Original) A printing system as claimed in claim 9 wherein,

said upper-grade apparatus rasterizes in a bitmap format both said bi-tone/single-bit print data having first resolution equal to output resolution of said color printing apparatus and said con-tone/multi-bits print data having second resolution equal to $1/n$ of said first resolution; and

said color printing apparatus includes an enlarging circuit for enlarging said con-tone/multi-bits print data having said second resolution to said first resolution, and prints out in accordance with the enlarged con-tone/multi-bits print data and the bitmap data of said bi-tone/single-bit print data.